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1905

PACIFIC ELECTRIC RAILWAY
LOS ANGELES, CALIFORNIA

MOUNTAINS.

Centuries old are the mountains ;
Their foreheads wrinkled and rifted,
Helios crowns by day,
Pallid, serene by night ;
From their bosoms uptossed
The snows are driven and drifted
Like Lithonus' beard
Streaming, disheveled and white.

Thunder and tempest of wind
Their trumpets blow in the vastness ;
Phantoms of mist and rain,
Cloud and the shadow of cloud,
Pass and repass by the gates
Of their inaccessible fastness ;
Ever unmoved they stand,
Solemn, eternal and proud.

—LONGFELLOW
in "The Mask of Pandora."

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Alpine Scenery in Winter on Shoulders of Mount Lowe.

THE MOUNT LOWE DIVISION

PACIFIC ELECTRIC RAILWAY



Scenic Mount Lowe

Man's Love for Mountains. In all ages of the world man has been a lover of mountains. Ruskin says, "Mountains are the beginning and the end of all natural scenery," hence it is natural that man should love them and that they should exercise great and potent influence upon him.

Carmel, Ararat, Hor, Horeb, Nebo, Sinai, Olivet, Hermon, Calvary, and others have left—through the literature of the Bible—ineffaceable impressions upon the highest civilizations of the world. All oriental literature abounds in references to mountains, and men were incited to lives of majesty, power, and purity by contemplation of them.

Every student of Japanese literature knows the influence Fuji Yama has had upon the destinies of that thoughtful nation. Life in the mountains of Afghanistan, Beloochistan and Northern India transformed the calm, meditative, pastoral Hindoos into active, impulsive, warlike peoples.



Robert T. Lincoln and Other Distinguished Visitors in the Snow near Echo Mountain, Mount Lowe Railway.

whose movements resemble somewhat the fierce storms that play upon their mountain summits or the wild winds that whirl down their canyons.

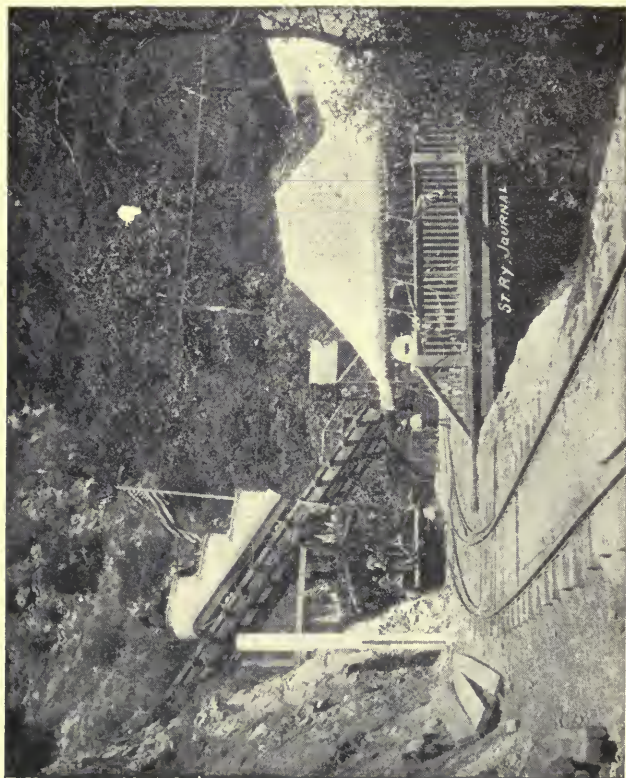
The mountain traditions of Europe would fill many large volumes, and the folk-lore of the peasantry, as to how they came by their names, makes most fascinating reading.

Who is there that cannot discern—what Sir Walter Scott so forcibly presents—the influence upon the national character of the Scots and the Swiss exercised by the rugged, bold and snow-crowned mountains of their native lands? And the proverbial philosophy of both these peoples contains many coins with a mountain superscription.

There is scarcely a poet of any age or clime whose soul since Homer made Olympus the home of the gods and Parnassus the seat of poesy, has not thankfully accepted the uplift of mountain influence.

Of nearly all the true, pure, heroic souls of history one could exclaim: "He made him friends of mountains," and we read with thrilling delight the thoughts inspired by mountains in Homer, Virgil, Dante, Goethe, Schiller, Moliere, Fenelon, Bourdaloue, Massillon, Wordsworth, Browning, Agassiz, Winchell, Clarence King, LeConte and others.

On Sinai's rugged brow it was, amid heaven's awful thunders, God showed Himself to Moses, and, through him to mankind, in the two tables of the law. On Hor's solitary peak He condescended to place the priestly Aaron in his tomb. On Carmel, His servant, the dauntless Elijah called for fire, and God responded with the de-



White Chariot Ascending from Rubio Canyon.

vouring element from heaven. On Ararat, above the drowned world, the family that was to re-people the earth, started after their long confinement in their floating home. On Pisgah, Moses stood to survey the promised land. On Hermon Christ's transfiguration took place. On Hattin He proclaimed the beatitudes. On Calvary He was crucified, and on Olivet He ascended.

While the exigencies of business and commerce have made it necessary for the large majority of people to dwell on level plains or on the shores of the ocean, the greatest peoples and the nations which have longest maintained their independence have been those which inhabited mountainous sections, and breathed the pure air of the higher altitudes. The purest patriotism, the highest intellectual attainments, the greatest love of family, and the most perfect physical development have been found among people who were inspired by the grandeur of mountain scenery. The clinging faith and stern patriotism of the Hebrews were the result of their love of the mountains of Palestine; the love of the Greeks for the mountains on which they lived gave them the intellectual and physical vigor which enabled them to roll back the Persian hosts; the sunny mountains of Italy were an inspiration to the Romans which enabled them to rule the world, and the heroism of the Swiss in preserving their national autonomy in spite of all Europe, is the most illustrious example of what has been the history of all mountaineers. Mountains are the barriers which have preserved nations from destruction, and national borders generally run parallel with mountain ranges.



Looking Through Open Door of Alpine Tavern, Mount Lowe.

Distinguished Testimony. As a specimen of many such testimonials which have been publicly given in regard to the popularity of the Mount Lowe Railway, I append herewith portions of an admirable letter written by the Hon. W. C. Patterson, late President of Los Angeles Chamber of Commerce, to its membership. The date is September 27, 1895. He said: "In the interest of my health and for the sake of most exquisite recuperation and enjoyment, I have made thus far thirty-nine visits to Echo Mountain, and several trips to the summit of Mount Lowe. I have also passed three or four times over the matchless five miles' extension which is called the 'Alpine Division,' and which extends to Mount Lowe Springs, where is situated Alpine tavern, an altitude of 5,000 feet above sea level.

"The Mount Lowe Railway, which enables one to penetrate the very heart of the Sierras with entire ease and comfort, has no counterpart in the world, either to the originality of its conception, the solution of what has been heretofore considered impossible engineering problems, or the indescribable picturesqueness of the ever-changing scenery through which it passes.

"Any one who makes a single visit becomes full of enthusiasm, but mine has grown cumulative to such an extent that language seems utterly inadequate. As I have witnessed the results of Professor Lowe's great genius, enterprise, and perseverance, and have studied his personality, I am more and more impressed with the belief that he is an unique character, and one of the great men of this progressive age.



Professor Lowe Addressing his Guests on the Suspended Boulder,
Rubio Canyon.

"It is a matter of intense surprise to me, and almost disgust, that so few of our own people right here in sight of our beautiful Sierra Madre, have availed themselves of the opportunities which he has opened for studying their more than Alpine beauties, their inexhaustible and intensely interesting geological and botanical resources, to say nothing of the benefits to be derived from the delicious mountain air, freighted as it is with sweet odors and buoyant exhilaration.

"These mountains are not, as many suppose, barren and bare. Vegetation extends to the very summit, more than 6,000 feet above the sea level, and the flora which abounds is a surprise, both as to its beauty and variety. The Alpine extension passes and repasses through delightful and romantic oak groves, and through forests of stalwart pines. Prof. Lowe's discovery of the existence of a quiet, steady, clear atmosphere suggested to him the idea of establishing in these mountains scientific institutions, especially astronomical and meteorological. The former science has already been installed in the splendid observatory, which is presided over by a distinguished astronomer, who nightly delivers free lectures illustrated by glimpses of the heavenly wonders through the great telescope. This observatory has already achieved a world-wide reputation, and from the superior conditions of the atmosphere in which it is placed, numerous discoveries have already been made, while other similar institutions have made no progress. It is said that for astronomical purposes, similar atmospheric conditions can scarcely anywhere else be found.



Ready for the Ascent to Echo Mountain.

These mountain peaks ascend almost abruptly from the ocean level, and in the great valleys adjacent the fogs and mists settle, leaving the air clear and transparent. The cool ocean breezes modify the effect of the sun's rays during the day and reverse the currents at night, whereby the atmosphere is, as it were, drawn from the desert over the higher ranges—nearly twelve thousand feet in height—having such cooling effects that the waves and tremors so annoying to astronomers in other localities are entirely absent.

* * * * * * *

“There exists in the minds of Eastern people an impression that Southern California is a hot climate, especially in summer. This impression arises from a variety of causes. Many assume that oranges grow only in hot countries. This is not necessarily true. They will not mature in cold climates, but they will thrive luxuriantly in mild climates. It is said that in Florida, where the summer climate is hot and sultry, oranges mature in six months, whereas a year is required in California. Another cause for the existence of a false impression as to our summer lies in the fact that heretofore some of our large hotels, which were owned by Eastern capitalists who control Eastern summer resorts closed their doors about the first of May, which is really just the period when our climate becomes the most delightful. Even when our inland districts become somewhat warm there is always delicious relief to be found at the seashore or in the mountains. It would seem strange to those not familiar with the fact that the mildest and most equable portion of our climate is found at altitudes of three to



Hon. R. T. Lincoln, Marshall Field, and Other Distinguished Visitors in White Chariot of Great Cable Incline, Mount Lowe.

four thousand feet. Those who visited Echo Mountain during the last winter may remember that delicate flowers flourished, while at an elevation of a thousand or fifteen hundred feet above snow fell to a depth of several inches and remained in the bright sunshine but dry atmosphere several days without melting. This has made possible an interesting experience, by which within thirty minutes after leaving the beautiful flowers of Echo Mountain and the valley below one can enjoy a sleigh ride among the pines in the vicinity of 'ye Alpine tavern.' The mountain atmosphere during the full six months is so mild and dry and pure that one could sleep in the open air without the least danger of taking cold

* * * * *

"I can guarantee that every person who goes over the Mount Lowe Railway from end to end will want to repeat the experiment and will urge his friends to go. The enterprise should have the hearty co-operation of all people interested in literary and scientific progress.

"The mountains of Switzerland, especially since the advent of mountain railroads, have made that country, with all its climatic drawbacks, a Mecca for tourists from all over the world. When the beauties and attractions of the Sierra Madre are fully made known why may not a large percentage of this vast tourist travel be attracted to our very midst?"

* * * *



PROF. T. S. C. LOWE.

**The
Mount Lowe
Railway.**

A few years since, a man whose boyhood was passed among the mountains of New England, conceived the idea that by the use of modern electrical appliances the summits of the highest peaks of the Sierra Madre could be



Group of Alders near Mount Lowe Springs.

reached and an easy route opened up whereby people could scale these heights with the same ease they ride over a modern railway. The result was the construction of the Mount Lowe



WINTER AT MOUNT LOWE SPRINGS.

Thirty Minutes from Perpetual Flowers at Echo Mountain House.

Railway, the most scenic railroad on earth. The originator and constructor was Professor T. S. C. Lowe. He constantly kept in view the artistic effects as well as the engineering conditions, and the result has been a road of easy grades and one where the most artistic pictures of scenery are brought into relief.



Scene near Maple Springs, Mount Lowe Railway.

**Origin of the Mount
Lowe Railway.**

The genesis of the Mount Lowe Railway is not far away. In 1889 some preliminary surveys that had been made for the



In Glen Canyon, near Echo Mountain, Mount Lowe.

purpose of scaling the Sierra Madre were submitted to Professor T. S. C. Lowe. He became interested in the matter and decided to make a personal examination of the ground, and shortly afterwards placed his corps of engineers in the field for the purpose of making a thorough survey in order to determine whether the work was practicable. After the engineers had been at work upon another route for many months Professor Lowe cut the Gordian knot by suggesting the now world-renowned Great Cable Incline. It was like a revelation to the engineers, and from this on the engineering problems were of easy solution.

The route starts from Altadena, a beautiful residence section about four miles north of Pasadena, from which point an electric railway runs over the high mesa and up Rubio canyon, a distance of $2\frac{1}{2}$ miles. The lower portion of this distance gives some very beautiful views of valley and ocean, and as the route enters the canyon it winds in and out following the devious course of the sparkling little stream which leaps over the rocks, now crossing smaller canyons on substantial bridges, and then cutting through solid rock, making a picturesque road which, were it not overshadowed by the greater glories of the upper portion, would of itself be famous. At Rubio canyon the foot of the Great Cable Incline is reached at an altitude of 2,200 feet above the sea.

* * * *



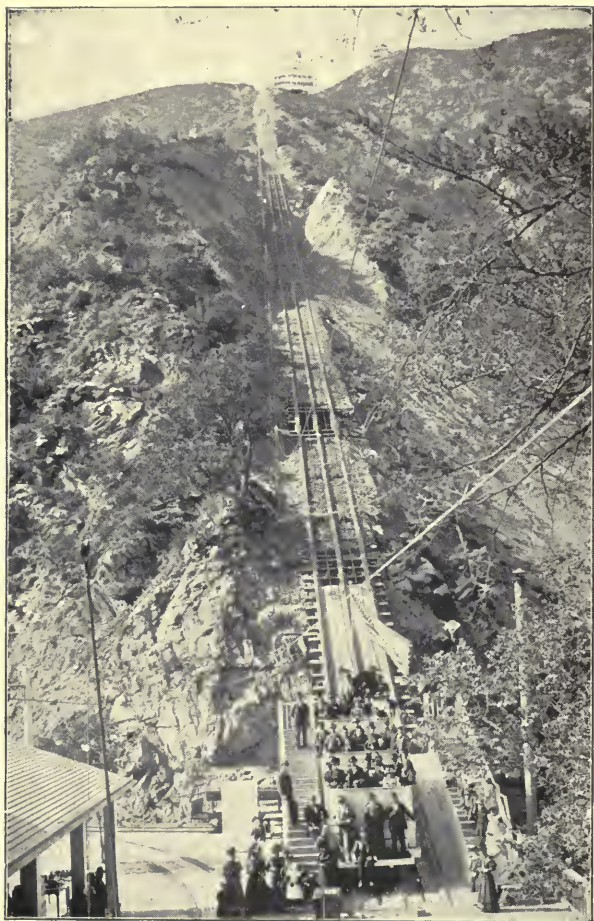
Rubio Pavilion and Concert Hall, Rubio Canyon Mount Lowe.

Rubio Canyon. Rubio Canyon above the pavilion is one of the most picturesque and beautiful spots to be found in the mountains. Immediately on entering the visitor is charmed and surprised with the richness of the verdure, the trees, shrubs, ferns and flowers that greet his eye. From the valley the mountains seemed barren,—now we see that they are fairly covered with mountain mahogany, lilac, holly, and other chaparral, while in the deeper canyons, pines, spruces, bays, maples, sycamores and live oaks flourish in large numbers. Ferns, mosses and trailing vines in profusion and variety cover the rocks, while

‘The witching tangle of the maiden-hair,
The sweet grace of the gold and silver ferns,
The nodding coffee fern with beauty rare’

seek shelter in hidden nooks, whose perfect solitude is only penetrated by the lover and the enthusiast.

Among the objects of interest in Rubio Canyon are Suspended Boulder, fern glens, moss grottos, peculiar stone formations, grand chasms, Ribbon Rock, Thalehaha, and nine other exquisitely beautiful waterfalls. Just below the Suspended Boulder is Mirror Lake. It extends across the complete width of the canyon, which somewhat narrows at this point, and reaches for quite a distance, being bridged by the plank walk leading to the Grand Chasm and Thalehaha Falls. The exquisite reflections of the trees, shrubs and towering rocks, together with the electric lights and Japanese lanterns on festive nights, give to Mirror Lake an indescribable charm.



Great Cable Incline, Mount Lowe.

The Great Cable Incline. The distinguishing feature of the road below the summit of Echo Mountain is the Great Cable Incline, run by a novel application of electric and water power.

This marvelous piece of railroad engineering has called forth the unstinted praise of many eminent engineers. The scientific press has been unanimous in expatiating upon its unique features and designates it "the greatest mountain railway enterprise in existence," and says "the engineering problems have been solved in a manner to challenge admiration."

This Incline extends from Rubio Pavilion 2,200 feet above the sea, to the summit of Echo Mountain, 3,500 feet in altitude. It is upward of 3,000 feet in length, and makes a direct ascent of about 1,400 feet. The grade begins at 60 per cent., after passing the turnout it is 62 per cent for quite a distance, then it makes two "buckles," one to 58 per cent., and on nearing the summit to 48 per cent. Sixty-two per cent. means a rise of 62 feet in going forward 100 feet, which gives an idea of its great steepness.

The cars are permanently attached to an endless cable, and are so balanced that in ascending and descending they pass each other at an automatic turnout, exactly midway on the Incline, and are so arranged as to keep passengers always on the level, regardless of the steep grades of the Incline.

The cable is of the finest steel and was thoroughly tested to a strain of ONE HUNDRED TONS, and, as under any circumstances the



"White Chariot" nearing Summit of Echo Mountain.
On Least Grade of Great Cable Incline.

loaded cars will never exceed FIVE TONS, its absolute safety is at once apparent.

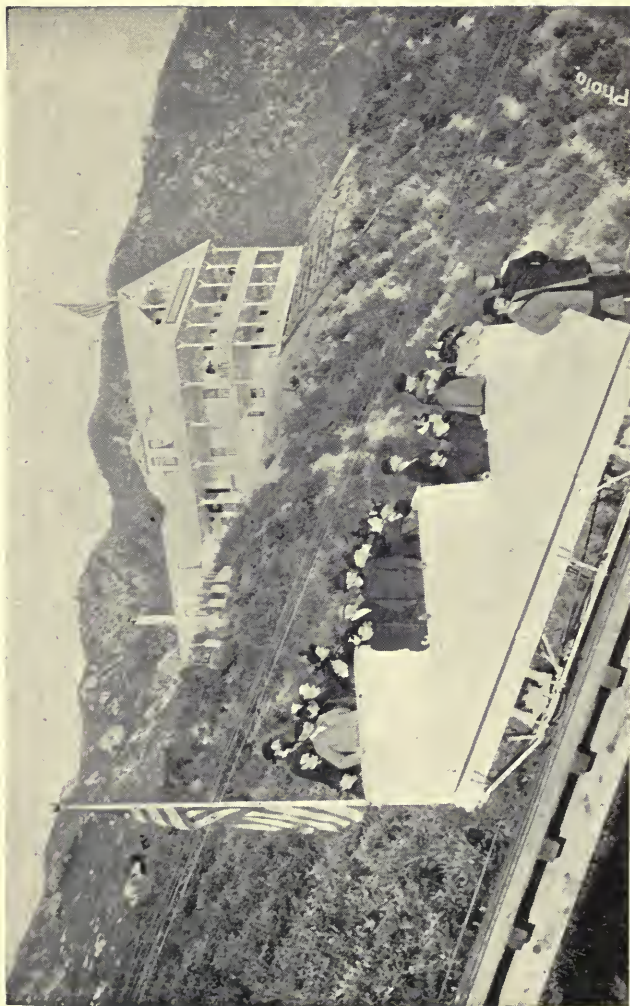
The view, in ascending, is indescribably grand. The motion is smooth and easy as if soaring to the clouds on wings.

At first, the mountains composing the Rubio Amphitheater appear to rise with the car, and yet the view enlarges every moment. Passing through Granite Gorge,—an immense cut in the mountain slope, where all the workmen who could possibly be crowded upon the mass were engaged for eight long months before a single tie could be laid—over the Macpherson Trestle—an immense bridge, 200 feet long and 100 feet higher at one end than the other—the San Gabriel Valley unfolds its incomparable charms, and, as the elevation increases, the view expands until, on reaching the verandas of Echo Mountain Chalét, the whole scene is presented in its full glory.

The grade of this Incline was such that burros had to carry cement and water for building the walls and buttresses, before the track could be laid, and, as there were many points where not even burros could climb in safety, men carried the required materials on their shoulders.

* * * *

Echo Mountain. Seen from below, Echo Mountain appears as a mere abutment from the main range, but when one stands on its summit the name "Mountain" is then seen to be singularly appropriate, for it is dissevered, except by a small "saddle," from the main range by Glen and Echo Canyons—



Echo Mountain Chalet and White Chariot on Great Cable Incline.

canyons half a mile and more in width and over a thousand feet in depth. Hence the location on this mountain, midway between the San Gabriel Valley and Mount Lowe, with towering mountains and abysmal canyons, affords a variety of scenery almost inconceivable to the dweller in the valley.

This outlook, 3,500 feet above the level of the sea, with mountains, foothills, ever verdant valleys, cities, towns, villages, old missions, sea beach, shipping, islands and ocean in full view, has no equal.

Thirty miles of bridle roads radiate from Echo Mountain, on which guests may roam or ride into romantic canyons, dells and nooks innumerable with freedom and safety.

These foot paths and bridle roads and the scenery they reach are not equalled at any resort on the surface of the globe. An entire week can easily be spent in rambles without visiting the same place twice, and then only a small portion of the delightful mountain and canyon recesses will have been explored.

* * * *

Echo Mountain On the crest of Echo Mountain
House. Professor Lowe placed two hotels, one "The Chalet," which still remains, the other, "Echo Mountain House," which was destroyed by fire three years ago. It was a superbly equipped hotel, of magnificent proportions and unequalled outlook, where many visitors from all parts of the world congregated. It is the intention of the Pacific Electric Railway to rebuild Echo Mountain House



UNION ENG. CO. L.A.

LOWE OBSERVATORY,
With Hotel and Buildings on Echo Mountain, Mount Lowe Railway, after a Snow Fall.

in the near future. This decision will be gratifying to those who have experienced the delights of this beautiful hotel in the past. The exact location of the new hotel is not yet decided.

* * * *

Lowe Observatory. This Observatory is located on a slope above Echo Mountain. A walk has been constructed from the Hotel to the Observatory, so that all who desire to visit it may do so without inconvenience or fatigue.

It is presided over by Professor Edgar Larkin. The instrument with which he is now searching the heavens is a 16-inch refractor, made in his best days, by Alvan Clark, the late lamented lens-maker of Cambridge, Mass., and it is, according to the maker's testimony, the best glass he ever made.

Professor Larkin thus writes of the advantages of the Lowe Observatory for astronomical work:

"The site of this institution is ideal, both for telescopic and spectroscopic purposes. So great is the purity of the air that both these instruments can be used in the most accurate measurement. The definition of the stars and disks of the planets is perfect, and the entire year presents but few nights during which a micrometer cannot be used. Stellar spectra are clear cut and steady, and in the solar spectrum the Fraunhofer lines are perfectly defined, the thin lines, in diameter equal to that of a spider's web, can be seen without difficulty. Few observatories in the world have a clearer sky, or a location presenting less trouble from air currents and changes. To illustrate the



The 16 inch Equatorial Telescope of the Lowe Observatory,
Echo Mountain.

clearness of the atmosphere, it will be merely necessary to state that the trapezium in the Great Nebula in Orion shows distinctly at the exact instant of rising over the mountain peaks! The writer has often observed the trapezium—the entire seven stars—when only one minute had elapsed since rising over the rocks forming the summit of the mountains! This will be appreciated by all who have long used a telescope in any of the Eastern observatories. The moon is white—not yellow, and the floors of the craters, the cones, whence escaped molten lava ages ago, and the delicate tracery of shadows are revealed with marvellous accuracy of detail.

“Nebulæ can be seen here that are invisible in many other instruments of equal or greater aperture. Double stars are separated at this observatory, that would seem to be beyond the power of a sixteen-inch glass. Closely packed clusters are dispersed into separate diamonds, rubies and sapphires. But no tongue or pen can describe the glories of the Milky Way. Imagine jet black velvet spread over with heaps, streamers and spirals, made up of every possible color of precious gem—with diamonds in excess. These stars all separately invisible to the unaided eye, are seen as individual points in the telescope. They glitter with supernal light, and scintillate in every hue of the spectrum. They are piled up by the million on the inconceivable blackness of infinite space, for never-ending space is black in the telescope. The Zodiacal light in autumnal evenings and mornings is seen extending almost to the zenith—a cone of pearly light.

Professor Larkin. Edgar Luciene Larkin was born in a log cabin, twelve miles north of Ottawa, La Salle County, Illinois, on April 5th, 1847.

But why? To this moment it has been an inscrutable mystery why Nature allowed this event to occur. It happened on a farm. My parents were poor enough to furnish a topic to a writer of modern socialism, such as "unequal distribution of wealth"; "submerged nine-tenths"; "why billionaires exist" and the like. The log hut was in a beautiful place, near a stream of clear, cool water—Indian Creek. It runs along through the north, from west to east, bending to the south, and discharges into the Illinois River at Ottawa. This stream is lined for miles with a magnificent forest, called the "woods." Stately trees of oak, ash, elm, maple, walnut and many other species waved in the winds, and in the autumn, colors beyond description fell on the leaves and they were all splashed with careless gold and scarlet. And the "sear and yellow leaf" abounded. And "Oh! those days in the woods!"—Nature days—whose memory now is enough to awaken the highest impulse in the mind. The neighbors did not find fault with my folks, and they were considered to be respectable, by even the nearest—not more than a mile away. Father was just ordinary, and the friends said that I "took after him." He farmed and mother merely kept house—the hut. These were pioneer days; a few cabins broke the distant line of horizon, to the west and south. As far as could be seen, even from the writer's perch in the top of a tall tree, there was one vast expanse of tall,



PROF. EDGAR I. LARKIN,
Director of the Lowe Observatory.

green grass waving in the wind. But how beautiful! Climbing trees to see the "waves roll" was ideal. The wind tumbled and tossed the grass into rolling waves, miles in length. The scene was wonderful; it was that of a prairie in Illinois. Just now, as we write, looking out of the window, the waves of the Pacific Ocean are seen thirty miles away. They are not more impressive than those majestic waves in the grass. For the writer became as expert in tree-climbing as his pre-historic and remote ancestors in South American forests. My mother—still living—is a woman of mental force and ability, of high morality and nobility of mind; but she could not bring me up right, that is, to be a farmer. The writer was sent to plow corn, and from subsequent events he now believes that he actually did; the weeds escaped entirely. I was transferred to the dairy department, and had sole charge of the cows. These loving creatures and the writer became fast friends. One was "ring streaked," and another "spotted and speckled." Old "brindle" led the procession down to the creek for water, with the writer in the midst. And "the lowing herds wound slowly o'er the lea," in those happy childhood and bucolic days. A mighty event took place; grandfather put up a frame house, with boards outside, real boards of pine, brought to Ottawa on the new canal; and the boards were painted white!

My father died when I was eleven years of age, so mother and I went to live in the new white house, with the grandparents. But there was no schoolhouse; the settlers were poor, but finally one was erected. It was not red, in fact

never had a coat of paint; and was about the size of a large room in a modern dwelling. Teachers were scarce and books likewise. Another event happened; a retired German physician came to "farm it." He had a library. I borrowed all the books he had in English, but the great volumes in German were as hieroglyphics. School opened in September, 1858, and the onerous, difficult and discouraging job of "educating" the writer began.

Then the greatest event of all occurred, on an auspicious day, October 5th, 1858, and I was asleep. Grandmother came in haste at about 10 P. M., aroused me and said, "Oh! Edgar, come and see the comet." When behold! the mighty comet of Donati seemed to span the heavens, and looked as though it came out of the black forests and extended to the zenith. Mortal eye has not seen a more wonderful display.

Its blazing nucleus was then passing the star Arcturus, and the scene is now in the writer's mind as though it were but yesterday. Cuts of the comet at the time of passing Arcturus may be seen in works on astronomy. Next day the writer decided to begin the study of astronomy. But how without books? The teacher had a copy of Burritt's Geography of the Heavens and Atlas. The writer asked her to sell it; she would for \$1.00, although it cost her more. But the dollar! Grandfather was perpetually paying for land. Dollars were exceedingly scarce. Grandmother had one gold dollar; this she gave me and the book was purchased. A surveyor living near had a four-inch lens. He placed it in a square tube of wood, and with one eyepiece made

up a telescope, which he loaned to me. So the study of astronomy was commenced with this outfit in my eleventh year. The first work was to trace the path of the comet among the stars on the atlas. The pencil mark is on the atlas yet, with 1858 scrawled in boyish figures. Five terms of school of three months each were attended, when arrangements were made for me to go to a high school and later, an academy in Ottawa. Then came disaster, weakness of the eyes. School, reading, the telescope, all had to go; and with heavy heart the little telescope was returned to the good old surveyor. Grandfather died, the dear old home was broken up; we moved to a nearby village, Earlville, Ill. In my fourteenth year my eyesight became strong enough to permit two terms in a graded school of six months each.

This "finished" the work of education, for events were such that I never entered school again. In 1879 the writer built a private observatory in New Windsor, Ill., and on January 1st, 1880, a fine six-inch Clark equatorial, with circles, was set upon its pier. In the spring of 1888, Knox College, in Galesburg, Ill., erected a good observatory on the campus. All the instruments were removed from New Windsor and placed in the new dome. The writer was director of the Knox Observatory from Aug. 1st, 1888, to Aug. 1st, 1895.

Upon coming to this fairy land of the earth, Southern California, I was appointed director of this mountain observatory, the Lowe, taking charge on Aug. 11th, 1900. Everything happened in August. Here is an elegant Clark sixteen-

inch telescope, with spectroscope and tele-camera, with accessories. The writer has not startled the world by capital discoveries in astronomy, but has confined his work to writing for journals and magazines. Enough has been published to make several volumes. Only one series has been printed in book form—"Radiant Energy." Study of science has been continuous, save for one deflection of six years, which were devoted with intense interest to Hindoo, Iranian, Persian, Egyptian and Greek philosophy and Esoteric mysteries, the occult.

The writer is a life Fellow of the American Association for the Advancement of Science, of the Southern California Academy of Science, and of the Astronomical Society of the Pacific, but has not surprised any of these societies by the discovery of a law greater than gravity, nor what matter is, nor electricity, nor how grass grows, or why we are here on earth. None of the mean things that the writer has performed are inserted on account of the inordinate length of this note."

* * * *

The Spectroscope. About 1600 A. D., Kepler placed a prism in a beam of sunlight and saw what had not before been seen—so far as known—the first solar spectrum. A century later Newton darkened a room, admitted solar rays through a round aperture in a shutter, passed them through a prism and obtained a clearer spectrum than Kepler's. Little was thought of these things, however, until, when in 1802, Wollaston made a slit in a shutter,



White Chariot nearing the Chalet on Echo Mountain.

projected a spectrum, in which he was surprised to see a few dark lines. In 1814 Fraunhofer made a spectrum in the same way, but happened to look at it with a telescope. This act changed the course of the science of optics for all time; it was the origin of Spectrum Analysis, one of the chief products of the human mind, one of the corner-stones upon which rests the structure of modern science. Men's minds immediately began to expand, and a period of mental activity set in, the like of which was never known before. Fraunhofer saw hundreds of lines, but the great spectroscope in the Mount Lowe Observatory shows thousands, in width from that of a spider-web to one-tenth of a millimeter. They are the most valuable set of lines known. They enable finite man to tell what the earth, sun and stars, meteors, comets and nebulae are composed of. The prism of Newton and Fraunhofer is now displaced by the diffraction grating—ruled by Rowland 14,438 lines to the inch. These striæ break up light into its elements, reflect them to the eye, and in solar and stellar light reveal the absorption lines. The spectroscope of the Lowe Observatory made by that accomplished optician Brashear is one of the finest.

* * * *

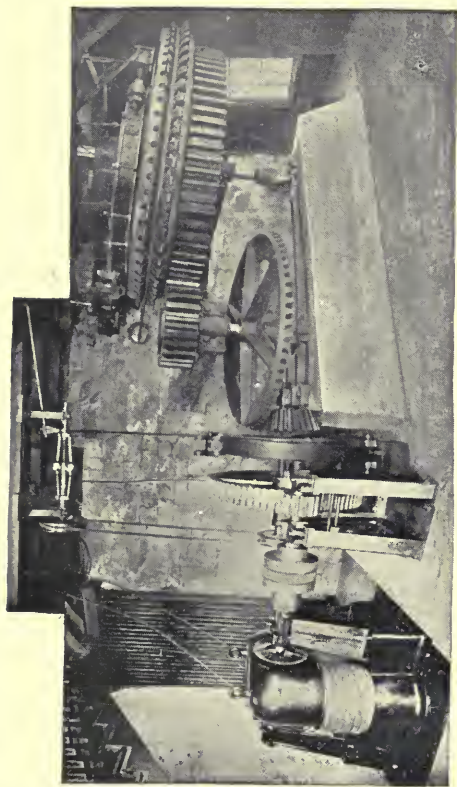


Night Scene, with Searchlight, Echo Mountain House, Mount Lowe.

Great World's Fair Searchlight. The Great World's Fair Searchlight, which is now so well known from its operation on Echo Mountain, first became famous at the World's Fair, Chicago, where it excited great interest, and surpassed all other exhibits in its line. After the Fair, it was taken to San Francisco and exhibited at the Mid-Winter Fair, where it delighted thousands from the Bonet electric tower, 264 feet high. When the Mid-Winter Fair was over, Professor Lowe purchased it and removed it to Echo Mountain, where it rests at an altitude of 3,500 feet above sea level. Until this great searchlight was established in its present location its powers could not be brought out on account of its location so near the general level of the surrounding country. Here, however, it is so located that its rays can be seen for 150 miles on the ocean, and the most distant mountain peaks can be made visible by its penetrating rays. The beam of light is so powerful that a newspaper can be read for a distance of thirty-five miles, and its full sweep illuminates the peaks of mountains which are hundreds of miles apart.

It is of 3,000,000 candle power, and stands on a wooden base, built in octagon form, which has a diameter of about eight feet. The searchlight itself stands about eleven feet high, and its total weight is 6,000 lbs., yet it is so perfectly mounted and balanced that a child can move it in any direction.

The reflecting lens is three and a quarter inches thick at the edges and only one-sixteenth of an inch at the center, and weighs about 800 lbs. The



Machinery for Operating the Great Cable Incline, Mount Lowe Railway.

metal ring in which the lens is mounted weighs 750 lbs., the total weight of lens, ring and cover being about 1,600 lbs. This great mirror is mounted at one end of the big drum, the outer end of which is furnished with a door, consisting of a narrow metal rim, in which are fixed a number of plate glass strips five-sixteenths of an inch thick and six inches wide. The value of this great searchlight in meteorological work has already been demonstrated on a small scale. When there is moisture in the atmosphere, and varying wind-currents, the light turned upwards discovers the directions in which the wind is conveying the clouds, and aids in revealing the conditions that cause these variations.

* * * *

Operating Machinery of the Great Cable Incline. Like many other things in connection with the Mount Lowe Railway, the machinery is unique and unlike anything ever before constructed.

The power was originally furnished by water. For the first nine months the Great Cable Incline was operated by water power and electric power generated by two monster gas engines. Now the power is supplied from the Pasadena plant of the Pacific Electric Railway. It is transmitted by large copper conductors to the Echo Mountain power house, supplying current to the 100 horsepower electric motor, which makes 800 revolutions per minute. Then by a series of gears the revolutions are reduced from 800 to 17 per minute, which is the speed at which the massive grip-sheave turns. The grip-sheave consists of a



Leontine Falls, near Echo Mountain, Mount Lowe Railway.

tremendously heavy wheel, on which about 70 automatic steel jaws are affixed. As the wheel revolves, these jaws close and grip the endless cable, to which the cars are permanently attached, and thus are they raised or lowered as occasion requires. By this method there is practically no wear whatever to the cable. It is not strained and chafed by the constant operation of gripping as on the street railway cars, where the inertia of trains of cars of many tons weight has to be overcome by the gripping of the ever-moving cable.

Every safety device and appliance of known utility that could be used has been placed upon the machinery and thoroughly tested, so that the unanimous verdict of the many eminent engineers who have scientifically examined in detail the machinery and its working is a deserved tribute to the foresight of Professor Lowe. That verdict is, that it is the safest railroad ever constructed; and the possibility of accident is reduced to a lower minimum than on any cable, electric or steam system in the world.

* * * *

Glen Canyon. This is one of the many quiet and secret ferny nooks reached in a few minutes from Echo Mountain House. Bridle roads and foot-paths reach these secluded spots, and there in ferny dells, surrounded by towering trees and majestic rocks, charmed by the babbling brooks, the rustling of the leaves and the sweet singing of thousands of birds, one may while away the hours in delicious restfulness.

* * * *



AMONG THE GIANT FERNS.

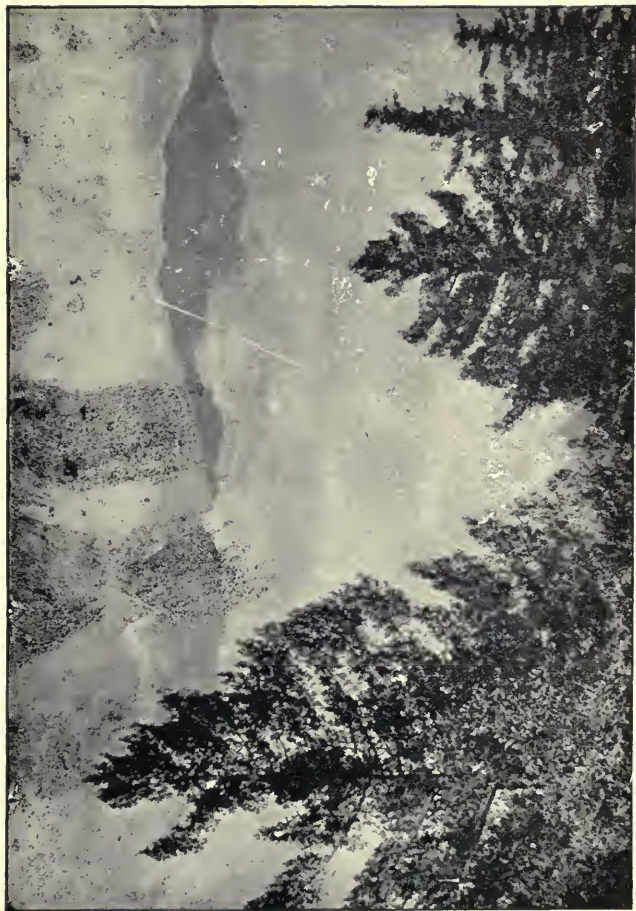
Glen Canyon, near Echo Mountain, Mount Lowe Railway.

Mount Lowe Eight. To ride on well constructed
bridle roads up mountain
slopes, winding in and out on diversified paths,
through and by bowers of fragrant trees, shrubs
and flowers, looking *up* through towering pines
to majestic cliffs and ponderous rocks, looking
down into the depths of vast canyons, where deer



On the Bridle Roads of the Mount Lowe "8."

find shady coverts, and looking *out* upon scenes
of perfect beauty and sublimity—these things fill
the body with vigor and buoyant enthusiasm,
and the mind with lasting pictures of increasing
interest.



The Phantom Sea in the Sierra Madre.

Realizing this Professor Lowe early had constructed more than thirty miles of wide and easy-graded bridle roads radiating from Alpine Tavern to all the higher peaks and summits of the range. The most important sections of these roads are known as the "Mount Lowe Eight," for, in making the complete ride to the summit of Mount Lowe from Echo Mountain and return, the figure "8" is described, the rider crossing his own path in one place only, and nowhere else riding twice on the same road.

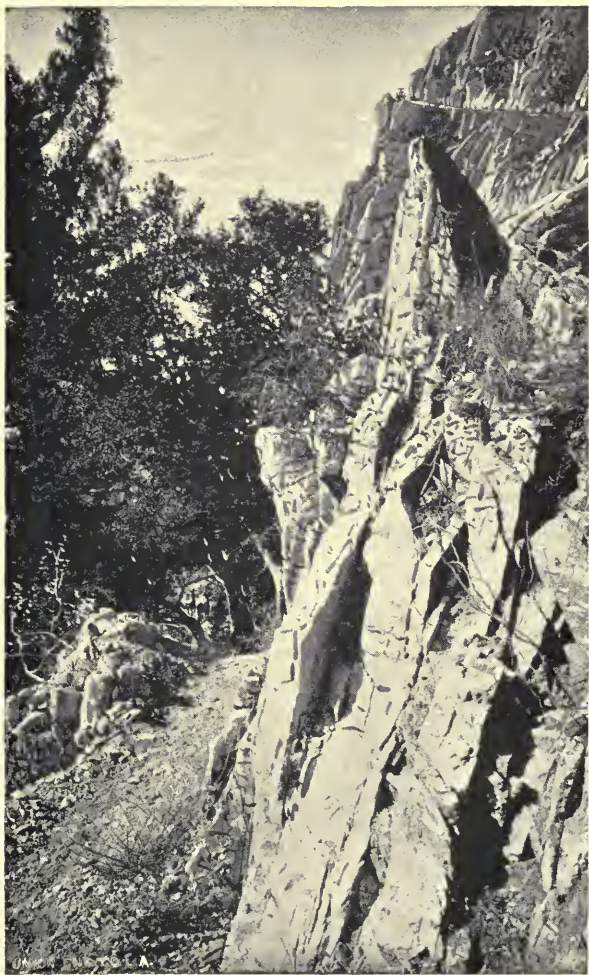
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**The Phantom Sea
As Seen from Echo**

Mountain and Mount Lowe.

One of the most
exquisitely beau-
tiful sights ever
witnessed is when

a low fog covers the San Gabriel Valley. This fog never rises above a level of about 2,700 to 3,000 feet, and when one is on Echo Mountain, 3,500 feet in elevation, the upper surface of this fog is spread out "like a phantom sea" below. The "cities of the plain" are covered with this snow-white or creamy pall. Underneath is partial gloom and dampness. Above, the sun shines upon a silent sea, whose waves are tossing and lifting, swaying and waving, until finally—generally between 8.30 and 9.30 in the morning—the heat, in dissipating the glowing white ocean, builds fantastic and mysterious forms on its surface, and draws them upwards to rapidly swallow them up and make them disappear in its warm embrace. Such a sight stirs the soul to its greatest depths, and suggests thoughts sublime and soul-uplifting.



Point Diablo, Mount Lowe Railway.

The sea is made of the exhalations from the Pacific ocean and covers the whole valley with its white, misty veil on certain mornings. It is 1,500 to 2,000 feet deep, and never reaches the summit of Echo Mountain. As seen from the great hotel it looks like a vast expanse of hummocky ice, as is often noticed in winter off the Atlantic Coast.

* * * *

The Alpine Division. The guest who has reached Echo Mountain should not conclude that

he has seen the chief beauties which align the route of the Mount Lowe Railway. Not so! What he has seen are but the adornments which are festooned around the vestibule of the greater glories of the Alpine division which carries him into the very heart of the Sierra Madre range, and amid the solitude which reigns among the higher peaks and spurs. This division extends from Echo Mountain to Ye Alpine tavern, a distance of five miles. The road is a substantially built electric road, with grades but slightly exceeding seven per cent., on which the cars are easily propelled by electricity. Indorsing all that has been said of the beauties of Rubio, of the Great Cable Incline, and of Echo Mountain, yet these afford but comparatively limited ranges of vision, sometimes obscured by the fogs and smoke of the valley. On the Alpine division, however, one is above these impediments to sight, and the range of vision extends until lost on the distant horizon. The air is clear and transparent, so that mountain peaks, distant islands and far-away valleys seem to draw near and pass in review like a silent procession of giants.



The Mount Lowe Railway and Valley from Mount Lowe.

Nature and Art. In the construction of the railroad Professor Lowe exhibited the same skill and energy that were so manifest in the lower portions of the route. The grade of the road has been made so low that one imagines he is riding on a level surface rather than climbing the steep and rugged sides of the Sierras. This grade enables the cars to be propelled with a great saving of power, and at whatever speed necessary to give passengers the finest views of the incomparable scenery which aligns the route. With that fine artistic taste which the originator of the enterprise has shown in every detail of the construction, he has built the track just where the best views of mountain, valley and sea are to be found, so that the road, instead of disfiguring the landscape, as do so many of the old-fashioned cog-wheel roads, adds to the beauty and charm of the scenery and gives to the particular section of the Sierra Madre where the "City on the Mountain" sits, an added charm.

The road climbs up the sides of the mountain in graceful curves, and as one is being carried along he often wonders where an opening to the apparently impassable walls of granite which hem in the way can be found. At one point of view, by looking up and down the steep sides of the mountain, nine different tracks can be seen rising one above the other. One of the unique features of construction is a bridge, which spans a canyon, and rounds a mountain peak, thus forming a complete circle. This division of the road is the only railroad in the world in which, throughout its entire length, the ties are laid upon a shelf of solid granite. And so carefully has the work



Jason Brown on Mount Lowe Bridle Road, Castle Canyon.

of construction been done that since its completion no accident has occurred to any of the thousands of people who have ridden over it. Its solidity ensures safety and exempts it from the dangers which environ railroads in the valley.

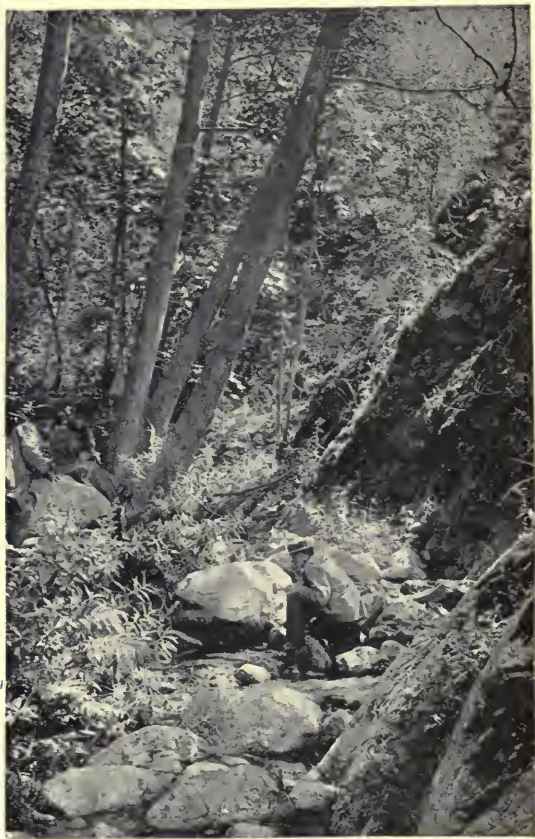
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Magnificent Views. But the grand views which are revealed along the route are the principal charms of the Alpine division. Until Echo Mountain House is reached



View from Artists' Point, Head of Grand Canyon.

the view is somewhat hemmed in by the nearness of the mountain sides, in Rubio Canyon and even when going up the Great Cable Incline. From Echo Mountain, however, a wider expanse of view is obtained, and as the higher altitudes are reached the scenery becomes bolder and the range of vision enlarged until it seems as though



In Glen Canyon, Five Minutes from Echo Mountain House.

the whole of Southern California was spread out beneath. Distant Catalina Island and the more remote Channel Islands, off Santa Barbara, have drawn near in the clear atmosphere, and the numerous cities which bestud the plain appear close by, while the higher peaks of the Sierras stand out against the sky with startling vividness. The vast depths of Millard and Grand Canyons sierrate the mountains as if the "plowshares of God" had upturned a path for winter torrents through the solid granite. Nature blends her softest and most bewitching vistas with the stern grandeur which pervades the mountain heights and the broad expanse of ocean which ultimately unites with the distant horizon.

As the road finally swings around into Grand Canyon, the character of the scenery changes and the vistas of valley, plain and ocean are shut out. All hint of the habitation of man is gone, and one realizes a sense of the solitude of Nature. The vastness of surrounding mountains and the great canyons impresses itself on the mind and one feels that the only thing which connects him with the abode of man is the frail wire which pulsates with that mysterious power which is doing so much of man's drudgery.

The terminus of the track, at "Ye Alpine Tavern," is 5,000 feet above sea level, at the head of Grand Canyon, and from that point the summit of Mount Lowe can be seen, towering eleven hundred feet above. A short and enjoyable walk brings one to Inspiration Point, from which the Observatory and buildings on Echo Mountain are seen as the play houses of children, so far are they away; and the orange orchards and vineyards



Approaching Grand Circular Bridge,
From Head of Millard Canyon, Mount Lowe Railway.

and green grain fields in the valley resemble the variegated patchwork upon the old-time bed-quilts. To those who from here desire to ascend to the summit of Mount Lowe, a wide and safe bridle-road offers the opportunity of an exhilarating ride up the mountain side, from whence a greater variety of views are obtained of distant mountain ranges, extensive plains and broad expanses of sea.

People go many miles, pay large railroad fares and spend much time to visit Watkins Glen and Ausable Chasm, New York. At Mount Lowe the scenery is an hundred-fold more grand, the canyons deeper than the highest peaks of hills which are dignified with the name of mountains in New York, and yet the expense of reaching Mount Lowe is but a fraction of what is charged there; no charge is made for guides; the time necessary to make the trip is much less, and the hotel accommodations very much superior.

* * * *

The Circular Bridge. Bridge builders, as a rule, build upon a tangent, and are very particular to have the floor upon a dead level. The reason that these two conditions are thought necessary is to avoid too much strain upon the structure, and in building railroads they are generally looked upon as absolutely necessary. Where the conditions are such as to admit of such construction it is undoubtedly the part of wisdom to follow the beaten path, but occasionally such a course would either largely increase the expense, or, as in the construction of the Mount Lowe Railway, stop further progress. Such a dilemma was thrice presented in the con-



GENERAL VIEW OF THE MOUNT LOWE RAILWAY.

From a painting by Gardner Symons.

struction of the Mount Lowe Railway. First in the numerous bridges along the lower portion of the route, in Rubio Canyon; again in building the Great Cable Incline, and lastly on the Alpine division, where it became necessary to build a circular bridge in order to get a proper grade.

In the second instance the bridges were built on the same incline as the balance of the grade, in one instance the upper end being one hundred feet higher than the lower in a length of 200 feet. It was, however, in the construction of the circular bridge that the most radical departure from the usual rules of bridge construction was taken. At that point it was necessary for the track to swing around a spur of the mountain, making a circle about 400 feet, with a diameter of 150 feet across and on one side a deep canyon had to be bridged. This was accomplished by the construction of a circular bridge built on a grade of $4\frac{1}{2}$ per cent. Many engineers would have declared that a car could not be run over such a structure, but it was so carefully and scientifically built that cars are run over it with as much ease and safety as over any other portion of the road. Stoppages are often made upon it and the start is again made without any strain upon either the bridge or car.

On other portions of the Alpine divisions loops are made around the heads of great canyons, and the track turns upon itself in such a maze that in one place nine different tracks can be counted on the mountain side, each successively reaching a higher altitude, all the bridges along the line conforming to the curvings and twistings of the track.



Near Mount Lowe Springs and Alpine Tavern, March, 1896, Three Quarters of an Hour from
Orange Blossoms and Roses.

Alpine Club House.**"Hanging of the Crane."**

Harrison Gray Otis,
the able veteran editor
of the Los An-

geles Daily *Times*, describes the opening of the mountain club house, called "Ye Alpine Tavern," on December 14, 1895, in the following manner:

"As was reported in yesterday's *Times*, the recently completed extension of the Mount Lowe Railway to the new 'Alpine Tavern' — five miles beyond the Echo Mountain House, and 5,000 feet above sea level—was made the occasion of an interesting celebration last Saturday. A hundred visitors or more from Los Angeles, Pasadena and abroad accepted the hospitality of the indomitable builder, and made the trip over the new line. It was a happy journey, a fortuitous occasion. The day was all that is implied in the term, 'a December day in Southern California.' A glorious southern sun shone straight down, flooding the scene with warmth and light. The air was limpid, thin, bright and bracing, and the spirits of the party rose as the electric chariot bore them on toward the summit, under the inspiration of a ride, the unique character of which can be found nowhere else on the foot-stool.

"The car goes swinging along the precipitous flank of the rugged mountain and the line is marked by astonishing sinuosities, startling curves, bold headlines and sharp angled rock piles. The road appeared dangerous to the more nervous and timid, but, in fact, it is as safe as any railway line running on the level, for the road bed, track and bridges are built in a most thorough and substantial manner, and were not made to 'fall down.'



GLIMPSES OF MOUNT LOWE RAILWAY.
Grand Circular Bridge at Upper Right Hand Corner.

"The picturesque route is through majestic forests, growing heavier and more luxuriant with the ascent, and the line penetrates deeper into the Sierra, where the snowfall of winter furnishes increased moisture, and the shade of the close set trees shields the ground and gives the fertile soil a chance to feed the abundant tree and plant life of this high altitude.

"The whole journey is alluring and picturesque, not to say thrilling. On one side of the road rises the towering uplift of the bulky mountain, its slopes bright in verdure and covered with heavy timber, masses of displaced rock and fallen trees. On the other sink immeasurable canyons, filled with a dense forest growth, thickets of chaparral and beds of luxuriant ferns.

"Far away, seaward, spreads the eye-filling panorama of the lower levels. Foothill slopes, big and little valleys, spreading plains, deep-cut arroyos, clearly defined watercourses, cultivated fields and gardens, sweet cottages and opulent homes—all are clear to the vision of the beholder from this summit height. Pasadena, Los Angeles and their environs are seen; the blue and restless ocean lies beyond, its ceaseless breakers ever lashing its unyielding shore into whitest foam.

"The delighted travelers brought up at the Alpine Tavern, not merely because it is a hostelry affording 'entertainment for man and beast,' but because the railway line runs, as yet, no further than that point. The hotel, built at the point known as Mount Lowe Springs, is constructed something after the style of a Swiss chalet, and is as attractive as it is unique. It is



Carriage Road from Alpine Tavern to Inspiration Point.

set into the very ribs of the mountain, being built to suit the location rather than after any stereotyped plan of the average modern architect, who would ruthlessly fell the finest forests—God's first temples—for the sake of building a wall 'just so.'

"In the forest all about the 'tavern' are giant pines and immense oak trees, their branches touching the very roof of the building. These trees are interspersed with maple, sycamore, mazanita, bay, etc., and almost every variety of fern is to be found in the the adjacent canyons.

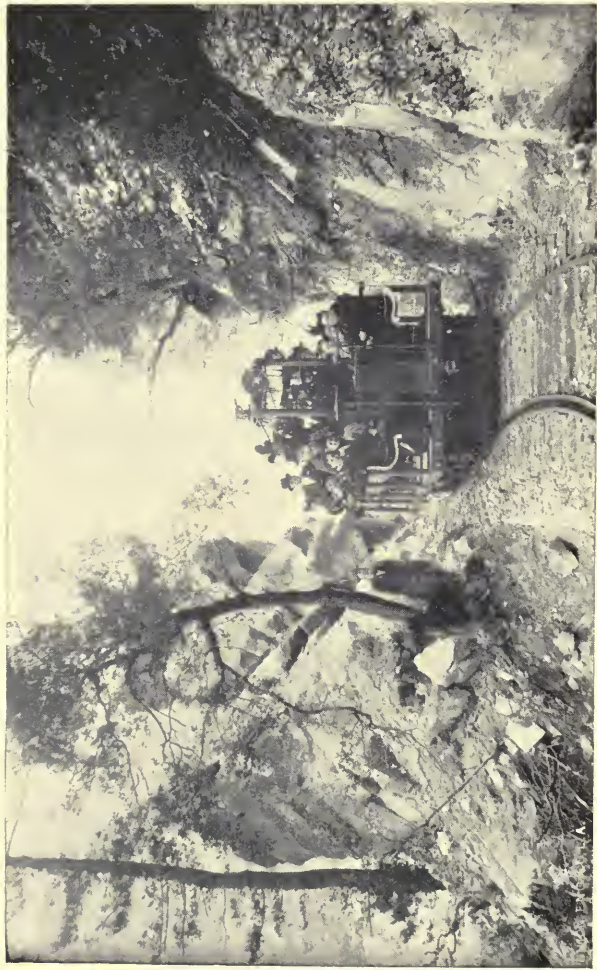
"In addition to the main dining hall there is a billiard hall and some twenty sleeping rooms, neatly finished in natural woods, and each heated by means of hot water circulation. These rooms are designed especially for visitors during the winter season, when it is desirable to be housed in a single building, but for summer months sur-

rounding the Tavern are numerous tent cottages which allow all who desire to sleep practically out of doors. These tents are large and commodious, and are equipped with comfortable beds and all the essentials of home. Many prefer them to the rooms of the Tavern.

"The 'tavern' is of an entirely original design, the construction being a combination of blocks of granite and Oregon pine, finished in the natural color of the wood. The building is forty by eighty feet, and the main floor is used for office and dining room purposes, in which one hundred people can easily be seated. In this dining room there are five cheerful open fireplaces of unique construction; the main one, in which swings the great crane, measures twelve feet from side to side, and seven feet high, with stone blocks for



A Woodland Dell, Mount Lowe Springs.



Observation Car near Granite Gate, Grand Canyon, Mount Lowe Railway.

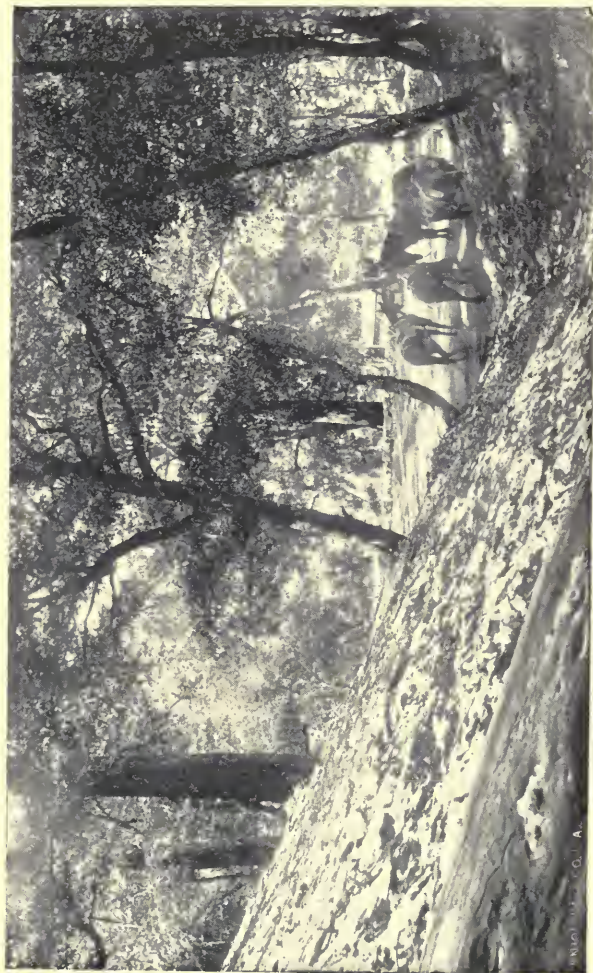
seats in each corner. Over the mantle is the hospitable inscription "YE ORNAMENT OF A HOUSE IS YE GUEST WHO DOTTH FREQUENT IT." On one side is a large old-fashioned brick oven, and on the other side an opening forming a buffet of most unique construction, where 'mystery' and other fluids are kept for the people of Pasadena.

"It is estimated that more granite has been displaced and rolled down the canyon in building this last five miles of road than would be sufficient to construct a city the size of Pasadena. The road-bed is literally 'rock-ribbed,' if not 'eternal as the sun.'

"The completion of the next section of the road is expected to be accomplished at some time in the future. Already two sections—that is, the one to Echo Mountain and the one beyond—equal, it is claimed, two and a half times the length of the famous Mount Washington road.

"While the improvements were going on at Echo Mountain the road beyond was being steadily built, and, as before stated, is now completed to these springs, 5,000 feet above the sea, and five miles beyond Echo Mountain. The redwood ties, which are of the standard size, lie on solid rock the whole distance, making this the only road in the world, the builder proudly claims, which for so long a distance is built on a shelf of granite.

"Beyond this point nearly a mile of road has been graded, which will be used as a carriage road for the present, and for sleighing when snow comes. Gentle saddle animals are provided here, at nominal expense, for those desiring to ride, and many do so in order to look off from Inspiration



Saddle Horses at Alpine Tavern, Ready for the Trip to the Summit of Mount Lowe.

Point, at the summit of the first range, from whence can be seen Echo Mountain, and the whole magnificent panorama below and beyond.

"Returning to the 'tavern' the interested company further inspected the quarters, and presently the ceremony of 'hanging the crane' was simply carried out by the chef and assistants, uniformed in white aprons, and 'bossed' by the whole party. The ceremony was quickly over, and was greeted



Mount Lowe, Looking North from Summit of First Range.

with applause and expressions of delight all along the line.

"Then followed the dinner, which was a toothsome repast, elegantly served. Prof. and Mrs. Lowe occupied the head of the table, and the guest were seated at will about the board. The repast was discussed with joy and satisfaction, and thereafter Col. G. Wiley Wells, Col. H. G.

Otis, Judge McKinley and Dr. Conger of Pasadena, each responded to calls, and made little talks for the entertainment of the company.

"Each of the speakers paid a handsome tribute to Prof. Lowe and his successful work, giving him full and high credit for his genius, perseverance, indomitable will, large faith and astonishing mastery of details. They dwelt upon the importance of the enterprise to Southern California, and predicted great results to flow from it in the years to come. The boldness and energy of the builder in undertaking, single-handed and alone, an enterprise vast enough to engage the efforts of a large corporation were dwelt upon by more than one of the speakers, and these references elicited the plaudits of the appreciative company.

"Prof. Lowe responded, modestly telling of his work as a practical modern man of business, who had simply undertaken the very feasible task of building a mountain railway to fit a mountain as he had found it—a work which required a very different sort of talent from that employed by the great artist to whom reference had been made in one of the toasts. The possibilities for sleighing, and the unequaled views from Inspiration Point were touched upon—a striking view that may be had from a small level spot near the tavern, not much bigger than an army tent would cover. It is certainly a view such as can be had from no other spot on the wide globe.

"The host's modest and candid speech was listened to with keen interest, and at its close the speaker was warmly applauded.

"This ended the high revelry, and then the

revelers took the train for the lower regions, but later got to their respective homes all right, after a most enjoyable day, long to be remembered."

* * * *

The Benefits of Mountain Climbing. The higher one climbs in the mountains the less becomes the atmospheric pressure upon him, and lungs, heart and nerves all feel the reduction of the pressure. All experience new sensations of freedom and vigor, activity and exuberance, felt only on the levels in times of excitement or stimulation. The lungs expand and the breathing is more profound; the heart thereupon beats fuller and more vigorously, while the subtle oxygen, no longer stealing into the body in a half-afraid, surreptitious way, but taking fuller possession at each more vigorous heart-beat, healthfully stimulates the nerves and the brain. Renewed activity is the result, with the vim, *verve*, joy and happiness that are natural concomitants of healthful physical conditions.

So mentally and spiritually. The higher we go, the less atmospheric pressure is there upon us.

We think easier and to better advantage, and our hearts respond more readily to the grand, the good, the beautiful and the sublime. The subtlety of the mental and spiritual stimulus that comes into the life when we are above the fogs and the clouds, breathing deeply a pure atmosphere, is one of its chief charms. We feel the stimulus or respond to it and wonder how and whence it came. A quickened mental and spiritual life is the result. Thoughts whose existence were never before dreamed of come and go



On Grade of Mount Lowe Railway, near Alpine Tavern, Thirty Minutes from Flowers
at Echo Mountain House.

UNION ENG CO L.A.

with rapidity, and we experience all the thrilling joy of mental and spiritual discovery.

Not only are spiritual, mental and physical power gained on the mountains, but in them is contained a marvelously extended store of material for the building up of the artistic and æsthetic sides of men. Here artist, poet, orator may gain a stock of unforgettable memories and provide themselves with gallery after gallery of perfect pictures; pictures of beauty, sublimity, majesty and grandeur.

Just think for a moment of the canvases depicting mountains. Some of the greatest artists of the world have built up their reputations through their mountain pictures. Three of our greatest artists owe their success to mountain pictures. Bierstadt, Moran and Hill are alike mountain lovers and worshippers.

Then who can overlook the place mountains have in the poetry of all peoples, of all times? And to merely recount the exquisite and strong, the beautiful and the sublime passages in literature, of which mountains are the theme, would fill many hundreds of volumes. Their heights and their unattainableness, and yet the luring of us onward and upward. The snow-capped peaks, the emblems of eternal purity. The dangerous precipices. The shady recesses. The thrilling canyons. The cooling fountains. The secret stores of waters they contain. The minerals they hide. The towering rocks looking down upon all below. The trees they nourish. The flowers they cherish. The valleys they make and sustain. The clouds they arrest and make contributors to the common good. The shields they are to the winds.



OUR ARTIST AMONG THE BOULDERS.
Bridle Road through Castle Canyon, near Echo Mountain House, Mount Lowe.

Health Gained in the Mountains. Physicians are now recognizing more than ever before the great value of conditions that exist in the mountains for the restoration of invalids to health. Hence year by year thousands of people leave the stern winters of the East, with their fierce snow-storms, blizzards, winds and tornadoes, to enjoy the equable, delicious climate of our sun-kissed land of the South, and nowhere can these benign influences be enjoyed as well as on the various elevations of the Mount Lowe Railway. Those who desire a moderate altitude find it at Echo Mountain, 3,500 feet above the sea, while to those who need the rarer atmosphere of the more elevated points, Alpine Tavern, among the pines, is an ideal spot. It is no mere formal statement that the hotels at these two points are first-class in every respect. In all essentials no modern hotel in the greatest cities of the continent surpasses them. The health conditions, too, are simply perfect. Pure water from uncontaminated sources,—springs that bubble up through the disintegrated granite and give a naturally-filtered water free from all mineral and organic matter; pure air, changing twice a day in gently flowing currents, which alternate from ocean and desert, both ideal purifiers of the atmosphere; balsamic and health-giving odors from pines, firs, spruces and other mountainous trees and plants; absolute freedom from all malarial or other injurious and noxious influences; the quietude of gentle nature; these are some of the conditions of distinct therapeutic value which minister to the physical and mental well-being of those who dwell in these favored spots.



Winter Scene, Thirty Minutes from Perpetual Roses at Echo Mountain House.
Now Reached by Alpine Division, Mount Lowe Railway.

A Mountain

Canyon in Winter.

Mountain canyons are always beautiful. No matter how rugged the scenery is, Dame Nature is such a finished artist that she paints the most huge rocks, or the most gnarled and twisted trees, so that all the human painter can do in order to become famous is to properly interpret and place on canvas the touches which nature has imprinted on the landscape. At best man is only a copyist; all his "creations" and "interpretations" are suggested to him by some manifestation of the Great Creator painted or impressed on some canvas hung on the mountain sides, or in the valley, or on the ever restless waves of the sea. It is in the solitude of the mountains where the finest inspirations for the artists are to be found. Here he is alone with nature. Here the grandest exhibitions of the titanic power of the Creator are manifest, toned and modified by the beautiful tints of flowers and ferns.

In this climate the summer is a season of rest for all natural vegetation, except in the mountains. Only where man has reversed the course of the seasons do we find growth and development. But even then the canyons possess wonderful beauty, although the songs of their brooks are sung in minor tones. As compared with the brown and parched valleys their cool retreats are refreshing. In winter, however, they possess their greatest charm. Then nature is busily at work. The rock gives out bounteous streams of water, which leap down their mossy sides, singing as they go joyful anthems and imparting to every kind of vegetation the moisture which



Alpine Tavern in Winter.

gives them renewed life. Where the landscape has been brown and bare comes the rich green of a new life, the very rocks putting on a richer coloring by absorbing their quota of the vivifying fluid.

Many people climb to the summits in order to get views of the canyons, imagining that from such heights can be found the best vistas of their caverns. They thereby get a beautiful glimpse of the dark recesses below ; but one must see the canyons from their depths in order to fully grasp their beauty and grandeur. We now get close to nature, and she talks to us in a language which all can interpret, and what glimpses of the outer world we see are toned and made mellow by the setting of rocks and forests which are blended by the variegated colors of brilliant green and the "sere and yellow leaf" of those trees which cannot overcome their hereditary nature and sleep while all other vegetation is bursting into new life.

Professor Lowe, having the eye of a true artist, laid out bridle paths, built stairways and walks, and, without disturbing nature, made access to the canyons along the route of the Mount Lowe Railway easy and pleasant, either on foot or on saddle animals. One can spend days and weeks with pleasure and profit in exploring these recesses, with the advantage of having a home at night with all the conveniences of urban life, at no greater cost than when stopping at hotels in the valley. Visitors should therefore come prepared to prolong their stay until they have leisurely roamed over all the paths and explored the canyons which constitute the itinerary of the

Mount Lowe Railway, and not be satisfied with a cursory glance at the wealth of scenery which is so easy of access, especially when its hotel accommodations are superior to all others in Southern California and at no greater cost than in the valley.

* * * *

The Flora of The Sierra Madre are not composed of dry, barren earth heaps, **Mount Lowe.** but, true to their name, are Mother Mountains, fostering and protecting life's



Acorns Grown Upon the Summit of Mount Lowe.
6100 Feet Above Sea Level.

children. A refuge for all, for primitive man of past times, who was forced to depend upon them for water and food, and for the civilized man of

to-day, seeking health and enjoyment in their oxygenated atmosphere and restful solitudes.

For the lowest as well as the highest of organizations the mountains are a grateful retreat. The simple *amœba*, whose existence is undoubtedly the oldest of all times, finds living here impossible, for in water it must live and move and in desert wastes it must perish.

The stately yuccas—the candlesticks of our Lord—their white fragrant blossoms borne on the straight stalks, at a distance looking like so many white stakes set by surveyors, grow only on the mountains and foothills; while down in the deep canyon streams the lowest of plants, the *algæ*, abound.

The nearer one approaches to the mountains the more abundant are the signs of life, the more prolific is nature, the more do the flowers multiply; until when the foothills are reached one sees them to be literally covered with blossoms.

The ferns are already at the mountains, while the flowering plants all seem to be on their way thither, as emigrants from the dry valley, leaving but few by the roadside, stragglers loitering on the mountain march, or perhaps not stragglers, but simply doubters, hesitating whether to still proceed to where the water ever flows, or whether to wait and see what further wonders man can accomplish with his irrigation.

From the fertile, semi-tropical fields of Altadena, aglow with golden poppies, stretching up in the mountains to the rocky summit of Mount Lowe, where saxifrage and penstemons, ferns and nightshade harmoniously cleave to the rocks and strive to gain a living in summer time against



Garden of the Gods, showing Two Sections, with portion of Circular Bridge, Mount Lowe.

altitude and dryness only to be buried in snow in the winter months, the line of march extends.

Shrubs and flowers in profusion vie with each other as to which will brighten the landscape the more. The California lilac of the lower altitudes, lays down its masses of purple blue color, the manzanita thickets of the heights send out their heavy white fragrant blossoms, a pleasing contrast to their rich red gnarled stems, while the brilliant gillias, the showy mariposa lilies, the various primroses, the mocking monkey face flowers—the mimuli, make the trails and bridle roads resplendent. The spotted tiger lilies look down upon the water flowing in the canyons, the woolly blue-curls—the trichostema, relieves the dull browns of the chapparral and the baby blue eyes, the nemophila, hugs closely the mountain sides.

The abundant phacelia whitlavia nods in its blue bells over the bank's edge, while its relative, the white phacelia, creeps over the rocks higher up. Downy yellow violets—wild pansies the children call them, so much larger are they than the Eastern violets—grow on the rich moist earth by the mountain springs.

Over the scrub oaks the yellow and white honeysuckle winds, while the clematis drapes other thickets with its graceful festoons of white blossoms in spring, leaving for the fall the funny seed balls still clinging to the vine.

Later in the year the wild fuchias and wild astors come unexpectedly forth when valley flowers have long since given up blooming, keeping up the reputation of the mountains for having flowers at all times and at all seasons.



Observation Car on Grand Circular Bridge en route for Alpine Tavern.

The Coast Islands From Mount Lowe.

The coast line of the Pacific ocean, as seen from Mount Lowe is peculiarly fine. On a clear day many islands can be seen from the summit, where the eye can scan a distance of nearly three hundred miles along the



Log Cabin, Mount Lowe Springs.

shore. Some of the islands rise from the surface of the water only a few hundred feet, their surfaces being high table lands, which can be cultivated; others are mountains, the highest peaks

towering 3,000 feet high, while others are apparently the rocky tops of submerged mountains.

The position of Mount Lowe is such that with one sweep of the eye they will pass in review on a clear day (which in this region is the normal condition of the atmosphere), giving a panorama of ocean, island, mountain and canyon scenery which cannot be equaled on the globe.

* * * *

Looking from The San Gabriel Valley and
Mount Lowe the mesa lands lying between
Over the Valley. the Mission Hills and the
 ocean are choice bits of
 God's creation, as are also the interior valleys
 which radiate from them.

This stretch of fertile land, all of which can be seen from some point of view on Mount Lowe, already contains two hundred and fifty thousand people, and yet only a small portion of the soil is cultivated. It is capable of sustaining a population of several million from the products of the soil alone, not to say anything of its superior location for manufacturing and commerce. Probably before the new century is half a decade old more than a million people will have their homes here.

The portion of this region lying immediately at the foot of Mount Lowe is the most thickly populated section of Southern California. Directly underneath, within a few miles of its base, is the beautiful city of Pasadena, with its sixteen thousand people, and just beyond the Mission Hills, the metropolis of the southwest, Los Angeles, is located, with one hundred and forty thousand population. These two cities show a greater



Swimming in the Pacific Ocean at Long Beach on New Year's Day.

annual per cent. of development than can be found in any other portion of the United States. The upper or western portion of the San Gabriel valley is cut up into fruit farms, which look from the mountains like well kept gardens, and the whole scene is one of busy activity. These cities, towns, orchards and farms give added charms to the landscape.

Through a good opera glass or a field glass the celebrated avenues of Baldwin's Ranch, the Mission San Gabriel, the Convent at Ramona, a portion of the Industrial School at Whittier, many of the public buildings of Los Angeles, and other objects of interest may be seen. A score or more of cities, towns and villages are clearly discernible, and the course of their streets well outlined. The Puente Hills, the Mission Hills, the San Rafael Hills and their surrounding mountain heights, with the peaks of Santiago, San Antonio, San Bernardino, San Gorgonio, San Jacinto, Santa Monica, Santa Inez and San Fernando are all in sight, and beyond these fertile valleys and highlands can be seen the peaceful waters of the Pacific sparkling and glimmering in the warm sunshine, studded here and there with some of the most beautiful islands in the world, the headlands of Santa Catalina standing out in a clear day like the bold cliffs of Gibraltar, and San Clemente, St. Nicholas, Santa Rosa, San Miguel, Ancapa, and Santa Barbara bedecking the ocean like the isles of the Grecian Archipelago.

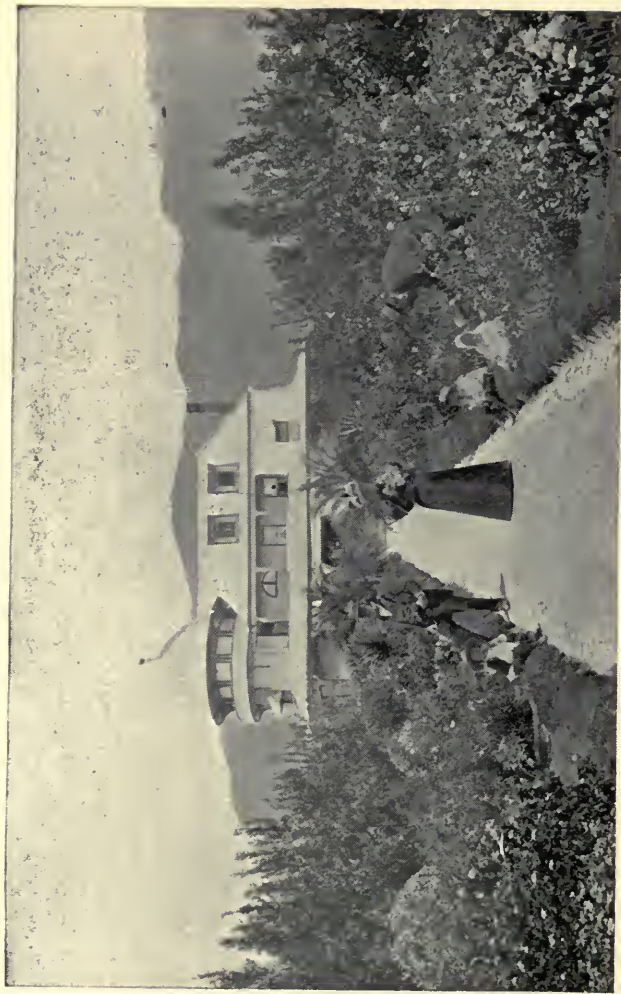
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From Alpine Snow to Semi-Tropical Sea. On several New Year's Days I have made this wonderful and memorable trip. The climatic conditions are so pecu-



At the Pasadena Tournament of Roses, New Year's Day.

liar that within three hours' time of enjoying a swim in the warm waters of the Pacific one may be snowballing his friends, sleighriding or tobogganing on the heights of Mount Lowe. The accompanying pictures give some faint idea of the unrivaled charm of this unique trip. Sometimes I have started at the snow in the mountains, but on New Year's Day, 1897, I first took a swim in the Pacific Ocean at Long Beach. This, "the Atlantic City of the West," is twenty-one miles southeast of Los Angeles, and the beach is one of the finest in the world. It has a gentle slope, is of firm sand, and is equally as good for horseback riding and driving as for bathing. Its great length of solid sand is what suggested the name, hence it is an ideal spot for those who love the ocean and the sands. Here, with several friends, I reveled in the surf and beyond, and then returned to the hotel with an appetite vigorous and healthy. The cravings of hunger satiated, the train whirled me back towards the mountains. Now the electric cars of the Pacific Electric Railway, over a broad-gauge track, surpasss even the steam cars in their speed and easiness of motion. The green lawns of Long Beach were left behind, that the eye might feast upon the rich green of the alfalfa fields and sugar beet ranches. The old Dominguez Ranch was passed, the mesa upon which the last fight with the Mexicans took place before California was secured to the United States, and the interesting gardens of the industrious "heathen Chinees." Never for a moment were we out of sight of the majestic Sierra Madre Range, while hoary San Antonio (so inappropriately and disrespectfully called "Old



Mr. Andrew McNally's Gardens on New Year's Day.

Baldy," by the uncouth and irreverent), lifted his sentinel head in watchfulness over the ever-verdant and glorious San Gabriel Valley. To the right and somewhat to the rear was the cloud banner mountain of Southern California, Mt. Santiago, while further away to the east were the giant peaks of San Bernardino, San Gorgonio and San Jacinto.

On reaching Los Angeles change was made to the Pasadena cars and a thirty minutes' ride conveyed me to the flower-embowered streets and avenues of Pasadena, where a score of thousands of citizens and visitors were assembled to enjoy the annual Tournament of Roses. This great mid-winter festival fully illustrates the climatic felicities of this God-blessed region. It is a midsummer fête, where, generally, flowers are lavishly expended in a wealth of floral decorations that to an eastern mind seems incredible. Floats, carriages, tally-hos, bicycles, horses and burros, decorated with choicest flowers, pass in procession through the streets and avenues, cheered by enthusiastic visitors. After reveling in the scene, the electric cars whirled myself, a solitary unit among several hundreds of people, to the heights of Echo Mountain and Alpine Tavern. Here, taking horse, and accompanied by a distinguished medical professor of the University of Minnesota, we were soon on the north slopes of Mount Lowe, where scores of patches of snow were seen. In the mid-winter air we rode without any inconvenience from cold, even light overcoats being unnecessary. Returning to Echo Mountain, we enjoyed there a concert, and then the doctor and I returned to Pasadena and Los Angeles, respectively, he delighted with the



In the Snow, overlooking Great Bear Canyon, Mount Lowe.

novelty of his trip, and I satisfied that in no other country in the world can such a three-hours' New Year's Day trip be enjoyed than in our "Land of the Sun Down Sea."

* * * *

From the Mountains to the Sea. Although the trip so briefly described above was taken on New Years' Day it must not be thought that it is a trip specially confined to that day. Snow generally is to be found on the north slopes of Mount Lowe from the end of November (after the first rains) until the middle of May, so that thousands of visitors may enjoy this unique trip. Stopping over night at Alpine Tavern, one may revel in the snow in the morning and be photographed at an elevation of 5,000 feet, taking a sleigh-ride to Inspiration Point, where he may stand or sit and look over the blossom covered orange and lemon groves and flower gardens of Pasadena. In three-quarters of an hour he may be driven in a carriage near those very orchards and gardens, where snow has fallen but twice in eighteen years. After dinner, a little over another hour's ride brings him to the shore of the semi-tropical Pacific, and here he may enjoy a swim, or, if he prefers, stand on the beach and watch a hundred people sporting in the warm breakers. This is no unusual experience for the delectation not only of those who are robust and strong, but even the delicate may, with perfect impunity, make such a trip, and thus be enabled to write to Eastern friends, shivering in the rigorous cold of an Alpine winter, of the pleasures of this almost unbelievable three hours' journey "from the mountains to the sea."



UNION ENG. CO. L. A.

Outlook from one of the Bedroom Windows, Alpine Tavern,
Mount Lowe, March, 1896.

DAWN ON MOUNT LOWE.

Looking southward to the sunlands,
On the ocean's ebb and flow,
Keeping watch o'er Echo Mountain,
Dwells the spirit of Mount Lowe—
In the glowing light of noonday,
In the midnight calm and lone,
Gazing outward from the summit
Like a ruler from his throne.




At his feet sits Pasadena,
Framed with fields of fruit and grain
Where the valley of San Gabriel
Slopes in beauty to the main—
Pasadena, decked with roses
And with gems of gold and green,
Resting on the landscape's forehead
Like a crown upon a queen.

And the "City of the Angels,"
On her hills of bronze and gold,
Stands amidst her groves of olives
Like Jerusalem of old;
With the purple Sierra Madres
Smiling downward from the dawn,
As Mount Hermon smiled on Zion,
In the ages that are gone.

West and south the blue Pacific,
Hemmed with surf and fringed with spray,
Bathes in floods of molten silver
Headland, island, beach and bay;
East and north the inland deserts,
With their ever shifting sands—
More unstable than the waters—
Fade in distant mountain lands.

Oh! that vision of the sunlands
 Where the skies are ever fair,
 And the Autumn woos the Winter
 With young rosebuds in her hair—
 Where the orange blooms forever
 And its leaf is never sere,
 And the mocking bird is singing
 To his mate the livelong year.

It has haunted me in slumber,
 It has gleamed and throbbled again
 In my solitary musings,
 And in crowded throngs of men;
 Like a vanished revelation
 Floats the memory back to me
 Of that dawn upon the mountain
 'Twixt the desert and the sea.

JAMES G. CLARK.



Mount San Antonio, July 4, 1895,
 As Seen from Mount Lowe.

Tri-Crested**Summit of Mount Lowe.**

No photograph or engraving can give any adequate conception of the grand proportions of this majestic mountain. Seen from Los Angeles, Pasadena, or the intermediate or surrounding points, its three crests are clearly outlined against the sky, and it stands—the proud monarch of the Sierra Madre range—centrally located and immediately overlooking Pasadena and the head of the San Gabriel Valley. The bridge road of the "Mount Lowe Eight" reaches its topmost crest, where there are delightful mountain parks surrounded by live oaks, pines, firs, sycamore and other trees.

The climatic and atmospheric advantages of this site for astronomical and meteorological observations have been enthusiastically expatiated upon by such scientific experts as President Eliot and Prof. Pickering of Harvard, Profs. Barnard and Burnham of the Lick Observatory, Prof. Kent of Chicago and many others. No more suitable site could be selected in the whole domain of the American continent.

* * * *

A Forest of Pines.

Along the Alpine division the cars pass through a forest of giant pines, which covers all the northern slopes of the Sierra Madre. The symmetrical branches weave a network against the background of blue sky. These hardy trees grasp the granite rocks with their gnarled roots and send a lacework of delicate fibres down the almost imperceptible fissures for nourishment. The roots of pines and oaks have penetrated the crevices to a depth of twelve to fifteen feet below the surface.

The Name. The "naming" of Mount Lowe was quite an interesting ceremony. A large party of distinguished citizens of Los Angeles and Pasadena had ridden to the summit to see the progress made in the construction of the railway and bridle-roads, and an article written at the time by one member of the party and published in an Eastern paper, the *Anglaise County (Ohio) Republican*, says:

"While in the enjoyment of the beauties and grandeur on this magnificent elevation more than 6,000 feet above the sea, some one inquired the name of this grand and lofty mountain, and then it was discovered that until this time this giant peak, the monarch of the Sierra Madre, was unnamed. One of the party suggested that whereas Professor T. S. C. Lowe, the great scientist, had first ridden to the top, had made the first trip to its lofty summit, was the first man to have planted the stars and stripes on its highest point, and was the first man to conceive the project of reaching its dizzy height with a railroad, and with courage and means to put such a project into execution, as was now being done, no more fit and appropriate name could be given this mountain than the name of 'Mount Lowe.' The motion to so name it was put and carried without a dissenting vote, and so, there above the clouds. it was named; and it will continue to be so named. when every one of the party present at the christening shall have been laid away in Mother Earth; and generations yet unborn shall trace its rugged outlines on their physical geographies and call it Mount Lowe."



"Gut Heil" Loop, Mount Lowe Railway, Looking from Winter to Summer.



Rounding Sunset Point, Mount Lowe Railway.

How to see Mount Lowe. There are various ways of "doing" Mount Lowe, but many people do not give themselves time enough to fully enjoy the various attractions which are to be found along the route. To people of leisure who desire to thoroughly explore the canyons, enjoy the scenery in all its varied manifestations, many days can be profitably and most pleasantly passed, the varied scenery furnishing new enjoyment every day. Those whose time is limited should come prepared to stop at least twenty-four hours. By taking an early train Echo Mountain is reached in time to take a ride over the Alpine division, and also to the summit of Mount Lowe, going over the bridle roads from Alpine Tavern on saddle animals. The afternoon can be profitably spent in exploring the many canyons of the "Mount Lowe Eight," and viewing the sunset from Echo Mountain.

In the evening there can be witnessed the operation of the great World's Fair Searchlight and telescopic views of the Moon and the Planets, the great Milky-way, with its millions of Suns as large as our own ; Saturn, with its beautiful rings ; Jupiter, with its grand belts and Moons, and many other celestial objects.

The Lick Observatory at Mount Hamilton is reached by a tedious round trip by stage of 54 miles without a chance to stop over night at the observatory. After viewing the splendid telescopic views from Lowe Observatory, all are invited to inspect the Incline machinery, elsewhere described.

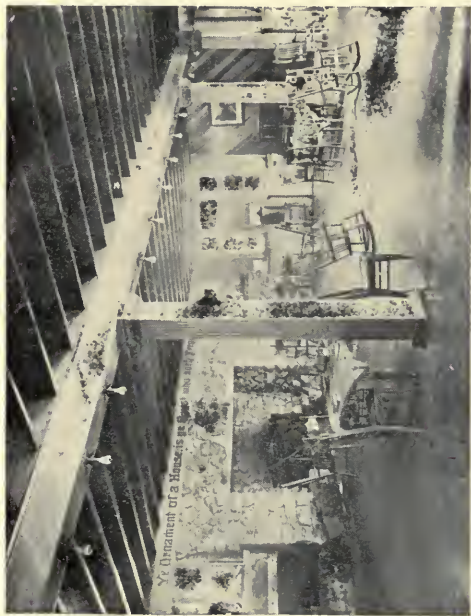


Observation Car, Descending from Grand Circular Bridge,
Mount Lowe.

Summer on Mount Lowe. The Sierra Madre Range has long been regarded as the most beautiful location in which to escape from the heat of midsummer, or to make the change of climate and scenery. Heretofore the seashore has been more largely patronized on account of its ease of access, but many hundreds of people have annually made pilgrimages to remote mountain resorts because of the pure air and healthful surroundings there to be found.

The building of the Mount Lowe Railway into the very heart of the mountains, and the erection of a modern hotel at Alpine has drawn the attention of the people to these attractions, and the trend of travel is now turned mountainward. Accommodations at the Tavern are not surpassed by any on the Coast, and the liberal policy of the company to those who desire to pass the summer here has so greatly reduced the expense of living that it costs no more, railway fares included, than at the seashore, and far less than by traveling long distances where they can find nothing to compare with this resort.

Other mountain resorts are hard to attain, and the cost in money, time and exertion places them beyond the reach of most people. But here, all the enchanting pleasures of mountain life can be enjoyed with the same ease and comfort and at no greater exertion than in the lowlands. For those who are affected by the heat and dust of the valley it is an ideal retreat, where complete exemption is to be had from all complaints of the respiratory organs, especially asthma and hay fever. The healthy and robust also find a variety of scenery



Around the Great Fire Place, at "Ye Alpine Tavern,"
Mount Lowe Springs.

and exercise which made life glow with new vigor, attaining in a large degree all needed rest and recuperation.

At Mount Lowe Springs the Alpine Tavern affords excellent accommodations at an elevation of 5,000 feet above the sea, in the giant pines which crown the summit of the first range, in which, also, are opportunities for cottage and tent life in a region in which are found the purest water, air which is perfectly adapted to delicate lungs, and innumerable opportunities for the physical and intellectual upbuilding of overtaxed minds and bodies. Here one can find rest and sleep as they have never slept before, awaking refreshed with the tonic of mountain air and sweet repose.

* * * *

The Summing Up. In closing the history of this remarkable enterprise, one thought overshadows all others as we contemplate the author and his work.

It is the thought of the unsolved mysteries and sublimities and beauties of these mountains—their inaccessibility, their remoteness—had it not been for the persevering efforts of Prof. Lowe. The dark curtain that had hung for ages over these craggy chasms, these phenomenal canyons, these magnificent forests, these abyssmal depths and cloud piercing heights, these grottoes and glens, these solitary habitations of bird and beast would still be drawn down but for his enterprise and genius—thus shutting out a thousand delights to the multitudes who have already looked upon them, and the myriads in the coming century who are yet to rejoice in their glories.

The Beauties of Mount Lowe. And no words of mine can express the charms, delights and beauties of Mount Lowe

better than the following apt and eloquent summary by Dr. J. H. Barrows, of Chicago, the well-known President of the Parliament of Religions at the World's Fair, and later, until his lamented death, the honored President of Oberlin College, Ohio:

"Thousands of trees grow out of its sold granite slopes; soft mountain breezes sing luring songs to the trees, the birds reply in a perfect ecstasy of liquid melody, the cataracts here and there dash and boom in accompaniment, and the rippling streams gossippingly carry the joyous news of the mountain heights and solitudes to the sweet mesas and plains below.

"Four varieties of scenery are here combined: The beautiful San Gabriel Valley pastoral scene; the sublime ocean and pearl-like island views; the Alpine, Swiss, Norwegian and Himalayan effects, the circle of magnificent peaks from San Antonio to San Jacinto. Here we have Italy and Switzerland, both together! Snow and orange groves! Icicles and heliotrope! Sleigh-riding and rose gardens! Tobogganning and humming birds! Skating and butterflies! Snowy mountains and pearly faced ocean, hazy islands and Eden's garden, all held in the bottom of God's hand, in the sight of one man's eyes, at one and the same moment!"

Other Picturesque Trips on the Pacific Electric Railway.

It was from Mount Lowe that the President of the Pacific Electric Railway gained his first insight or "oversight" of the vast possibilities of the region in and around the city of Los Angeles. When it was suggested to him that the time was not far distant when the whole of this region, from the mountains to the sea, would be threaded over with electric railways, he was inclined to regard the suggestion as chimerical. Time has made his the hand to perform the improbable. Nowhere in the civilized world is such a suburban and interurban system of electric railways to be found as radiates from the city of Los Angeles to the cities, towns, seaside and mountain resorts of this portion of Southern California. Visitors to the Mount Lowe Railway should request the conductors to point out from the summit of Echo Mountain the location of the following places.

* * * *

Long Beach. One of the most interesting trips out of Los Angeles is over the Pacific Electric Railway to Long Beach. This enterprising city is located twenty-one miles southeast of Los Angeles on the shores of the Pacific Ocean. Its location is such that the natural advantages make it the finest seaside resort in California. Taking the cars at the corner of Sixth and Main Streets, the city of Los Angeles is soon behind us and we are "spinning" along at sixty miles an hour over the smoothest piece of broad gauge track ever built, in cars that are large and commodious.

Many points of interest are passed en route



Long Beach, Reached by the Pacific Electric Railway.

—the extensive fields of the Co-operative Colony, vegetable ranches with their picturesque Mongolian workmen; through the prosperous town of Compton, which is situated in the centre of a fertile district, where sugar beets, garden truck, alfalfa and other products of the soil are raised; thence by the old Dominguez Ranch, famous for the old Spanish bull fights held there, also the old chapel where every Catholic bishop in this State has held Divine services. The surrounding Mesa was the field of one of the fights of the Mexican War.

The track is so straight that the poles, rails and wires converge and the vanishing point is seen. The miles are slipping by at a rapid rate. Over bridges, through fields, by shady nooks and deep pools we go. Rich fields of alfalfa, with their valuable herds of cattle grazing in the foreground, while in the distance San Antonio rearing its hoary head to the skies, the sentinel of the tropical San Gabriel Valley, makes a picture long to be remembered.

Passing over a most attractive lagoon and up a slight grade—the steepest on the trip—we are nearing the city of Long Beach. Houses with their beautiful lawns appear on every hand. Situated on the right is the new high school building, an example of the Old Mission architecture. Turning from American Avenue on to Ocean Boulevard, the broad Pacific greets our unobstructed view. Hundreds are enjoying the bracing air and delightful surf. The large building to the left is the open air pavilion, in which concerts are given every day in the year, dances being held tri-weekly. From here the broad

pleasure pier runs out through the roaring surf to the distance of eighteen hundred feet. Fine fishing is had from this point of vantage, although by going out in boats one may enjoy the pleasures of deep sea fishing. The world renowned leaping Tuna and June fish are taken, some running as high as 200 pounds.

Among the attractions of the beach is the new \$90,000 bath house. Finely equipped in every respect, it is the best appointed and largest bath house in the South. The warm plunge is 60x120 feet, graded to all depths. Here one may enjoy still water bathing and acquire the art of swimming more readily.

Up and down the beach for miles as far as the eye can see is the broad expanse of hard, white sand—fourteen miles long at low tide—making one of the finest drives imaginable, while off shore the white winged yachts add an enchantment to the scene. The city in itself is very attractive, the parks, public and private buildings, broad, well laid out streets, show prosperity everywhere. Roses, calla lilies, violets, carnations and other flowers are always in bloom. The Chautauqua Assembly of the Pacific Coast is held here every summer, in a large Tabernacle built for that purpose, and interesting lectures are given by men of national repute.

* * * *

Whittier. The great Quaker poet has here his California namesake, a beautiful town nestling on the lower slopes of the Puente Hills. Here Pio Pico, the last Mexican Governor of California, built a home for his young bride, and here, forty years later, three Quakers decided

upon this as the location for a town they had decided to establish. That was fifteen years ago. Now it is a prosperous town of fully six thousand inhabitants. In 1900 it had but one thousand five hundred and sixty inhabitants; in 1902, three thousand; in 1903, six thousand. In the same time bank deposits in the city have increased from \$90,000 to \$275,000. In the first six months of 1903 more than \$90,000 have been invested in buildings; a \$12,000 church, two \$12,000 school buildings, a \$15,000 Odd Fellows Hall, besides scores of beautiful residences. A fire department has been organized, a building erected and an ample equipment secured. The city has been lighted with electricity and 25,000 feet of gas mains have been laid. New \$25,000 high school building, a city hall, and a dozen miles of cement sidewalks are not far in the future.

A ride out to Whittier, therefore, cannot fail to be of interest to traveler and stranger. In the Whittier oil fields great activity is manifested, and on the journey one may see some of the finest of orange orchards, walnut groves and field after field of monster "small" fruits, such as blackberries, loganberries and the like. The old Pico Mansion is one of the historic landmarks of the State that all should see. Here also is located the State industrial school for both sexes. Cars run regularly from Depot, Sixth and Main Streets, Los Angeles.

* * * *

San Gabriel. This historical landmark was founded by the Franciscan Fathers Padres Benito Cambon and Angel Somero September 8, 1771, for the purpose of converting



Mission San Gabriel, Reached by the Pacific Electric Railway.

the Indians in that territory to the Christian faith. The Indians readily yielded to the teachings of the mission Fathers, at one time there being 1,700 Indians under their supervision at this Mission.

The old Mision structure is substantially built of brick, covered over with adobe as plaster. The walls are from four to six feet thick. To-day one can see it, as of old, standing as a monument to the men who braved death and sacrificed their lives to bring religion to a heathen people. It is one of the best preserved of all the old Missions, and contains many interesting old frescoes, hand carved images and paintings which were brought to this country from Spain.

The old bells, of which originally there were six (at present only four), still chime forth the Angelus, and peal forth their summons to mass. They were brought from Spain and traded for in hides, beeswax and tallow.

Among the numerous attractions is the old Mission Grape Vine, over 100 years old; the cactus hedge and the Campo Santo or old Spanish burial ground.

The Pacific Electric Cars en route to this picturesque spot pass many points of interest to the traveler. Majestic pepper trees line the way.

After leaving the junction of the Pasadena Short Line the Raymond Hotel stands out in bold relief against Mount Lowe, many miles distant. The cars then pass in front of the famous San Gabriel Winery, one of the largest in the world. Visitors are allowed to sample freely of the rare old vintages.

Thence the cars wend their way through the main street of the town of Alhambra, which is

noted for its fine villas and fruit products of all kinds. Beautiful villas greet the eye on every hand, and the beauty of the flowers is everywhere;—thence to San Gabriel, the home of the oldest inhabitants of the San Gabriel Valley.

* * * *

Monrovia and Baldwin's Ranch. About sixteen years ago an enterprising citizen of Los Angeles, Mr. W. N. Monroe, realizing the beauties and natural advantages of the foothill country, developed water where the town of Monrovia now stands, and laid the foundations of the enterprising city of that name. It stands to-day a marvel of beauty; verdure surrounds you on every hand. The agricultural possibilities that have laid dormant through the ages have been brought to a reality, and this section is now considered one of the richest sections of Southern California.

The new double-track broad-gauge electric line from Los Angeles to Monrovia, eighteen miles long, passes through the famous San Gabriel Valley, with the peaks of the Sierra Madre range, Mount Lowe 6,100; Wilson's Peak, 6,700 feet, and San Antonio 10,000 feet, standing in bold relief against the blue.

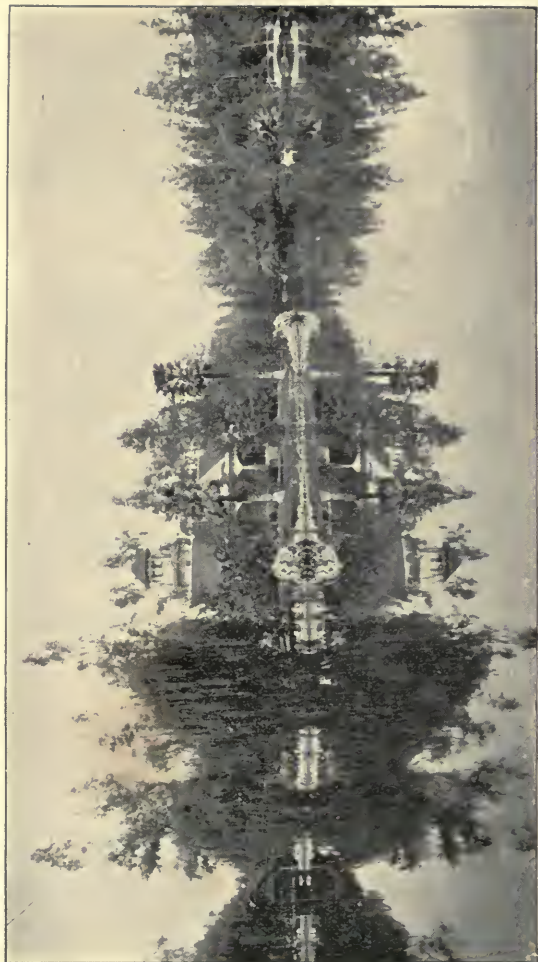
Starting from Los Angeles we go over the new Pasadena Short Line to Monrovia Junction, where we turn to the east, the Short Line continuing in a northerly direction to Pasadena. A grand view of the Raymond Hotel, with its dark background of mountains, is to be had as we turn east onto the "Orange Grove Route." This is through orange groves all the way, one may say, for we

are riding through all kinds of fruit groves and orchards until Monrovia is reached. Here and there we see stretches of pasture, dotted with live oak trees, with herds of cattle grazing peacefully under their scraggly but picturesque branches. Country roads guarded by tall eucalyptus and graceful pepper trees, wineries and vineyards add to the scene. Passing through the L. J. Rose and Chapman ranches we now enter the famous ranch of the West, BALDWIN'S RANCH.

Arcadia is the station we stop at for Baldwin's ranch. Tallyhos meet the cars, and the nominal price of 50 cents is charged for the drive through the ranch. On this drive all points of interest are visited—the house, winery, race track and stables.

Twenty-five years ago, Mr. E. J. Baldwin, better known as "Lucky" Baldwin, took up land and secured ownership to the vast acreage, now comprising 54,000 acres. It stands, actually a principality in itself, the finest ranch in the West. Time and money have not been spared to beautify the grounds and orchards. The Ranch House is situated in the midst of an immense orange grove, surrounded with artificial lakes and pools, majestic palms and drooping boughs of the weeping willows. Roses are in profusion; giant cacti and stately pines show a contrast of production. The scene challenges description. Nestling under this canopy of beauty is the old Log Cabin, a relic of the early days, and the first house occupied by Mr. Baldwin when the surrounding country was claimed by the greatest land owner of all, the Desert.

At the stables are to be seen the best thoroughbred horses in the West, all with records for their



The Lake at Baldwin's Ranch, Reached by the Pacific Electric Railway.

fleetness. The Emperor of Norfolk, a most knowing animal, won the Derby of '89, winning in one race \$44,000. This horse won in two years more than any other horse living, winning over \$200,000 for his owner.

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